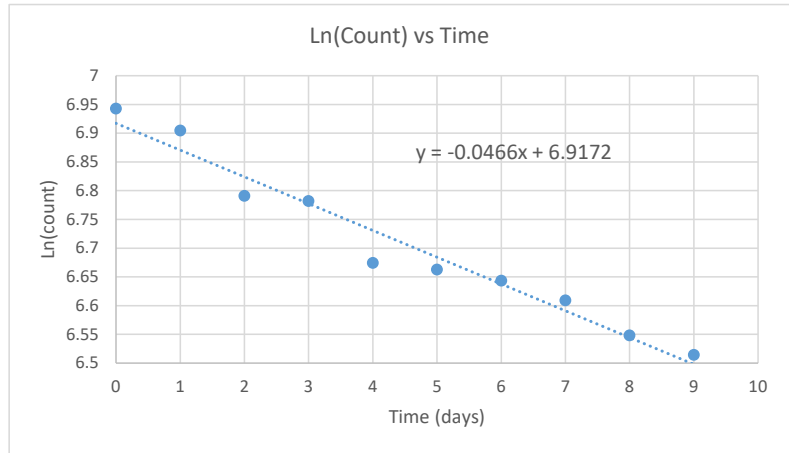


1

| day | time(min) | count | Ln(count) |
|-----|-----------|-------|-----------|
| 0 | 2 | 1036 | 6.943122 |
| 1 | 2 | 997 | 6.904751 |
| 2 | 2 | 890 | 6.791221 |
| 3 | 2 | 882 | 6.782192 |
| 4 | 2 | 792 | 6.674561 |
| 5 | 2 | 783 | 6.663133 |
| 6 | 2 | 768 | 6.64379 |
| 7 | 2 | 742 | 6.609349 |
| 8 | 2 | 698 | 6.548219 |
| 9 | 2 | 675 | 6.514713 |



SUMMARY OUTPUT

| Regression Statistics | |
|-----------------------|-----------|
| Multiple R | 0.9804367 |
| R Square | 0.9612561 |
| Adjusted R | 0.9564131 |
| Standard E | 0.0300372 |
| Observatio | 10 |

| | |
|-------------------|------------------|
| $\tau =$ | 21.5 days |
| $\sigma_{\tau} =$ | 1.5 days |

ANOVA

| | df | SS | MS | F | Significance F |
|------------|----|----------|----------|------------|----------------|
| Regression | 1 | 0.179079 | 0.179079 | 198.484241 | 6.25913E-07 |
| Residual | 8 | 0.007218 | 0.000902 | | |
| Total | 9 | 0.186297 | | | |

| | Coefficients | andard Error | t Stat | P-value | Lower 95% | Upper 95% | ower 95.0% | pper 95.0% |
|------------|--------------|--------------|-----------|-------------|--------------|-----------|------------|------------|
| Intercept | 6.9171617 | 0.017654 | 391.8074 | 2.0163E-18 | 6.876450347 | 6.957873 | 6.87645 | 6.957873 |
| X Variable | -0.04659 | 0.003307 | -14.08844 | 6.25913E-07 | -0.054216272 | -0.038964 | -0.054216 | -0.038964 |

2

| |
|--------|
| day 12 |
| count |
| 577 |

| |
|----------|
| σ |
|----------|

| |
|----|
| 25 |
|----|

| | |
|-------------|------|
| init. Count | 1009 |
|-------------|------|

Count = $e^{int} * e^{-\lambda t}$, int = intercept, λ = slope, let C = count, & t = 12days.

$$\frac{\partial C}{\partial int} = C, \text{ and } \frac{\partial C}{\partial \lambda} = -t * C, \text{ therefore } \sigma_C^2 = (C * \sigma_{int})^2 + (t * C * \sigma_{\lambda})^2$$

3

| | | |
|-----|----|----------------|
| z = | 28 | m ³ |
|-----|----|----------------|

| | | |
|--------------|----|----------------|
| $\sigma_z =$ | 13 | m ³ |
|--------------|----|----------------|

$$\frac{\partial z}{\partial x} = 6x^2 - 4y^2 \text{ and } \frac{\partial z}{\partial y} = -8xy \text{ Then}$$

$$\sigma_z^2 = ((6x^2 - 4y^2)\sigma_x)^2 + (8xy\sigma_y)^2$$